White Paper

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HIE Sustainability Formula

Using Analytics and HIPAA Transactions to Fund Current Operations Today

Executive Summary

As the health care industry works to move health information exchange (HIE) forward by transforming how administrative, clinical and financial data are shared, the endgame is clear: improved health care quality and patient safety, better compliance with evidence-based protocols, enhanced care coordination, increased administrative efficiencies, reduced redundancies and, ultimately, lower costs.

At present health care stakeholders have the means to meet many of these goals, as witnessed by the good progress HIEs and Regional Health Information Organizations (RHIOs) are making in the data-sharing arena. However, because HIEs initially were developed with a single focus on high-value, high-cost clinical data exchange, very few HIEs have planned for or achieved a sustainable business model.

Long-term sustainability continues to be a major hurdle that could jeopardize HIE progress. The federal government has bolstered health information technology (HIT) solution efforts by offering new funding programs. But those resources are only a short-term fix at best and at worst will be insufficient to support the level of interoperability and functionality that will deliver the benefits envisioned for the HIE over time.

At this juncture in the HIE lifecycle, a new, sustainable business model is absolutely necessary to ensure that momentum continues to build and that exchange efforts result in both improved care and controlled costs in the future. HIEs are experimenting with different model elements to achieve sustainability and several are finding varying degrees of success. A new model—which can be implemented immediately—will yield value from data that exist electronically today in order to fund more advanced functionality with expanded data types tomorrow.

In taking a step-wise approach to building sustainable HIEs, stakeholders need to consider how existing electronic data—including administrative claims data—can be leveraged and consistent with HIPAA privacy rules to produce revenue and improve health outcomes to offset their HIE investments. To that end, analytics will serve as the linchpin in securing HIE success and sustainability for both the short and the long term.

Significantly, the combination of analytics, claims-related information, growing pools of data stemming from a broader adoption of electronic health records (EHRs) and greater integration of technology within an HIE will help to create a complete picture of the point-of-care activities and transactions that contribute to cost and quality—a baseline from which to drive overall improvement efforts and financial stability.

Stimulus Bill Provides Short-term Financial Boost to HIEs

HIE organizations certainly have been buoyed by the American Recovery and Reinvestment Act's (ARRA's) call for unprecedented investments by the federal government in health IT infrastructure. In addition to incentives for physicians to adopt EHRs, the federal stimulus bill appropriates billions from various funding sources for the development of HIEs, most of which will be funneled through state and state-qualified entities.[1]

These funding priorities reflect the belief among policymakers that HIT plays an essential role in improving care. They also signal an emerging view that appropriate use of HIT will become a benchmark for provider professionalism. According to David Blumenthal, M.D., M.P.P, National Coordinator of Health Information Technology, U.S. Department of Health & Human Services, within 10 years the majority of physicians will have implemented EHRs. "Using EHRs will become a core competency for physicians. And once we've established that, it will be considered an absolute requisite," Blumenthal said.[2]

Specifically, EHRs will provide physicians with easier, faster access to patient-specific information at the point of care.

[1] The American Recovery and Reinvestment Act of 2009, H.R. 1, Title VIII – Departments of Labor, Health and Human Services, and Education, and Related Agencies. And The American Recovery and Reinvestment Act of 2009, Title XIII-Health Information Technology, Subtitle B—Incentives for the Use of Health Information Technology, Section 3013, State Grants to Promote Health Information Technology, Office of the National Coordinator for Health Information Technology, Department of Health and Human Services, 2009. Planning incentives as part of Section 4201, Medicaid Provider HIT Adoption and Operation Payments; Implementation Funding, and 3013, for Health Information Technology Extension Program, among other sources.

[2] Manos, Diana; "Blumenthal: EHRs will become 'an absolute requisite' for docs," *Healthcare IT News* (Feb. 5, 2010) (quoting National Coordinator of Health Information Technology David Blumenthal's Feb. 4, 2010, speech at the 18th National HIPAA Summit in Washington, D.C.

At the same time, EHR connectivity to regional HIEs will facilitate greater aggregation and analysis of health data (where appropriate under the federal law and HIPAA privacy rules) to support broader initiatives that will increase the quality of care while reducing costs.

In recent years, EHR adoption has lagged, with providers concerned about getting a sufficient return on their investment in electronic solutions. These concerns were amplified by a recent Harvard study that questioned the quality improvements and savings stemming from EHRs' potential administrative and operational efficiencies in the hospital setting. The study—which did not address the use of analytics to drive change at the point of care—concluded: "As currently implemented, hospital computing might modestly improve process measures of quality but does not reduce administrative or overall costs."[3]

Although the new funding and advances in technology encourage a fresh look at electronic solutions, because this funding is finite, success hinges on finding an HIE model that both delivers long-term value to all stakeholders and is self-sustaining.

Models Offer Lessons in Sustainability

HIEs and public governance entities have taken different approaches—including membership-based fees and transaction-based fees—to establishing financially profitable business models for data exchange and analysis. For example, HealthBridge, located in Cincinnati, Ohio, has become one of the nation's largest and most successful self-funded HIEs by combining low-cost, straightforward implementation and efficient technical support.[4] HealthBridge's revenues, which largely come from monthly fees paid by diagnostic centers, labs and hospitals, have exceeded expenses by 5 percent to 8 percent over the past five years.[5] Further, HealthBridge predicted that it would reduce health care costs in 2009 by $20 million by cutting staff time, paper and postage costs.[6]

Michiana Health Information Network (MHIN), a community-based HIE serving Michigan and Indiana, has been operating for over a decade. MHIN is a self-sustainable HIE that was launched with $200,000 in start-up funds and received no federal or state grants or contracts.[7] The organization supports itself through monthly membership fees—which range by the type of service—paid by health care providers, physician offices and medical institutions. MHIN reports a return on investment for hospitals, physician practices, independent labs and radiology clinics.

Although these examples demonstrate that HIE membership and transaction fees can offset HIE expenses, it also is clear that they do not go far enough to ensure long-term sustainability or fund growth and increased functionality over time. This point is further underscored by the Harvard study, which found that while HIT by itself has a modest impact on process measures of quality, it has "no impact on administrative efficiency or overall costs" in the hospital setting.[8] To be viable, HIEs must go further than information exchange to provide additional value to stakeholders.

Adding that value can be as simple as HIEs providing administrative efficiencies while also building in data analytics capabilities that will benefit stakeholders today and help to fund clinical data exchange and more advanced HIE functionality down the road. Vermont Information Technology Leaders Inc. (VITL), a RHIO that is a public-private partnership with participation from health care providers, government, employers, consumers and health plans, strives to meet Vermont's health care reform goals—including HIT, transparency and cost-containment initiatives—in tandem with its HIE goals.[9]

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[3] Himmelstein, M.D., David U; Wright, Ph.D., Adam; Woolhandler, M.D., MPH, Steffie; "Hospital Computing and the Costs and Quality of Care: A National Study," *The American Journal of Medicine* (November 2009).
[4] "Migrating Toward Meaningful Use: The State of Health Information Exchange," Health Initiative's report based on its 2009 *Sixth Annual Survey of Health Information Exchange* (July 22, 2009).
[5] *Id.*
[6] *Id.*
[7] *Id.*
[8] Himmelstein, M.D., David U; Wright, Ph.D., Adam; Woolhandler, M.D., MPH, Steffie; "Hospital Computing and the Costs and Quality of Care: A National Study," *The American Journal of Medicine* (November 2009).
[9] "Health IT: The Vermont Story," presentation by David Cochran, M.D., president and CEO, Vermont Information Technology Leaders Inc. National HIE Summit, Washington, D.C., February 5, 2010.

VITL's "blueprint for health" uses an integrated platform with a Web-based registry, a clinical data repository and a population-based management tool that is populated through the HIE via bi-directional feeds from practice and hospital EHR systems, labs, public health registries and other sources. VITL provides administrative efficiencies today and seeks to add data services—a capability built into the platform from the start—that will help stakeholders achieve even greater value in the near future.

Administrative Claims Data + Analytics = Immediate Value

One of the first steps toward integrating analytics into an HIE model is to recognize and leverage information that is readily available electronically in a way that is consistent with HIPAA. Historically, when the industry discussed the HIE need for more electronic systems for data exchange, it was referring primarily to the need to transmit clinical information, almost like a high-technology version of a fax machine. Although transmitting clinical data remains important, the industry also should not overlook an equally essential part of the picture: administrative claims data, which currently are available.

Advanced Analytics Provide Solid Returns

Some HIEs are achieving a degree of financial stability and have made some gains in improving efficiency. Separately, other health care organizations are using data analytics, such as physician measurement, care gap analysis, disease management programs, and others, to provide information and services that enhance their mission. Combining the successful fee-based information exchange of HIEs with the powerful value-added analytics capabilities that other organizations are utilizing will result in HIEs that can sustain themselves and their future growth and functionality.

Learning more about the entities that currently use analytics to forward health care goals and quality improvements shows how analytics immediately enhance service offerings and will bring needed revenues to the HIE equation. Two organizations can serve as examples of how advanced analytics are delivering returns today. The Illinois Department of Healthcare and Family Services announced in the fall of 2009 that it would distribute bonus payments to physicians who meet or exceed performance standards in five key areas. To execute its program, Illinois—in partnership with Ingenix—developed methodologies for measuring physician performance using claims data, immunization data and other demographic information. Data mining and analysis are conducted using the state's Medicaid data warehouse.

Further, WEA Trust, a not-for-profit insurance company serving Wisconsin public school employees and their families, turned to analytics to increase efficiency, obtain a better picture of its employees' overall health and determine which factors are driving health care utilization. Using analytics, WEA Trust improved productivity, increased the number of cases handled per employee, and will gain a projected five-year net benefit of $1.1 million.

Analytics can be used in myriad ways—e.g., to foster better care and disease management, improve physician performance and conduct public health monitoring—and are a proven, reliable, value-proposition. Applying analytics to the HIE setting today using available administrative claims data will result in outstanding return that can contribute greatly to both health care reform goals and HIE sustainability.

Electronic administrative health claims data are nearly ubiquitous, even from providers who have not implemented an EHR system because these data already are produced electronically through the billing process. Further, administrative information can be easily de-identified and analyzed to enable individual organizations to benchmark and compare their costs and patient outcomes with those of their peers. Analytics also can be used to mine administrative data to determine public health trends, such as flu vaccination rates in a given community. And, analytic processing of administrative data can be used to improve compliance with evidence-based protocols, to correct old practice habits and to provide more effective health care.

Provided that all HIPAA privacy and other requirements are met, analytics help HIEs transform existing electronic information into useful, actionable data. It is worth reiterating that the Harvard study on EHRs did not evaluate how analytics might have an impact on quality care improvements and patient outcomes. For example, with analytics an HIE could correlate data from physician prescription records with "dispensed" drug information from pharmacy claims to provide physicians with a list of prescriptions "not filled" from their e-prescribing vendor. This could be a valuable tool for increasing patient compliance with medication instructions, thus reducing the cost of health care. This same concept, extended to other health care areas, could help improve outcomes and provide physicians with more useful tools to employ when caring for their patients.

Advancing HIE Sustainability With Analytics Today

These analytics and capabilities are described in a business model—**The HIE Gateway Model**—proposed by Ingenix, where HIEs would serve as a gateway, aggregating an array of clinical and administrative data for the communities they serve. **The HIE Gateway Model** also would integrate payers and clearinghouses, which have an existing network infrastructure and revenue base, and transform the industry by reducing parallel network congestion and complexity.

The HIE Gateway Model supports administrative transactions, such as HIPAA transactions, and serves as a feeder mechanism for the analytics of combined clinical and administrative information. Different from a traditional clearinghouse, which operates in a parallel network environment that adds expense and time into the process, the gateway is an integrated connectivity network that allows the HIE to redirect the revenue typically associated with administrative transactions into the production of revenue for the HIE. In addition to delivering the providers' administrative data to payers in bulk, it can provide the analytics engine with a de-identified carbon copy of the administrative transactions to government agencies, payers, and research centers, among others.

The HIE Gateway Model approach offers several financial advantages that are important to HIE sustainability:

- **A new funding stream** from feeding gateway-aggregated data to third-party clearinghouses at the customary inter-clearinghouse bulk rates.
- **A reduction of payer clearinghouse fees** because the large-volume regional payers receive their HIPAA transactions from the HIE gateway without involving clearinghouses.
- **A redirection of the clearinghouse funding into the HIE.** The elimination of duplicative direct connectivity between providers and clearinghouses results in savings to providers without reducing functionality. Some of these savings can be redirected to the HIE.
- **A collection point for administrative transaction data to feed the analytics engine.**

This last point is important because although some of the most advanced payers have established data warehouses from which they can derive analytics to identify gaps in care, outcomes improvement and other metrics, smaller payers do not have this capability. HIEs could then provide analytics to smaller payers and other entities that don't have the resources, at a more affordable price. In order to get the best analytics possible for an HIE, there is a need to aggregate the clinical and administrative data available for all the patients and providers that participate in that HIE,

Numbers Add Up for The HIE Gateway Model

Even without analytics, **The HIE Gateway Model supports sustainability because it creates health care information efficiencies** by eliminating redundant data exchange services and fees from clearinghouses, redirecting clearinghouse fees to support HIE clinical data exchange, and reducing physician administrative transaction expenses. By implementing this approach, HIEs could act as aggregators of EDI transactions and collect incremental fees from clearinghouses and payers, as well as redirected annual fees from providers, which could total more than $3 million annually. If revenue from value-add analytics services is added to the redirected administrative feeds, the model becomes even more compelling for the HIE-centric exchange model. Value-add analytics will be the topic of an additional white paper soon to be published.

These fees would break down as follows, based on an HIE with an estimated pool of 5,000 providers and an administrative transaction volume of 21 million transactions annually:

HIE Gateway Services to Clearinghouses

The HIE collects the HIPAA transactions from its providers, **aggregates the flow and delivers the aggregated HIPAA data** to the clearinghouses. The clearinghouses pay the HIE for its data aggregation services. The assumption is that 20 percent of the transaction volume from the providers in the HIE will be routed to the clearinghouses.

Total HIE HIPAA transaction volume	21,000,000
Volume sent by HIE to clearinghouses	20%
Transactions/year	4,200,000
Per transaction for aggregation services	10¢
Incremental Fees from CH	**$420,000 Per year**

Provider HIE Gateway Participation Fee

A flat fee charged to providers that send their HIPAA transactions through the HIE. The assumption is that providers currently are paying twice this much, or more, for sending their HIPAA transactions to their clearinghouse.

Subscription Fee/Provider/Month	$30
Providers x $30 x 12 months	5,000
Incremental Annual Fees from Providers	**$1,800,000 Per year**

HIE Gateway Services to Local/Regional/Large Payers

The HIE collects the HIPAA transactions from its providers, **aggregates the flow and delivers the aggregated HIPAA** data to the largest regional payers. The payers pay the HIE for its data aggregation services, but at a lower rate than they currently pay the clearinghouses for the same service. The assumption is that 80 percent of the transaction volume from the providers in the HIE will be routed to the local and regional payers.

Total HIE HIPAA transaction volume	21,000,000
Volume sent by HIE to payers	80%
Transactions/year sent to local payers	16,800,000
Share of commercial payer volume vs. government payer volume. Currently, government entities do not reimburse aggregators for their services. That could change	50%
Transactions/year sent to local commercial payers that reimburse aggregators for their services	8,400,000
Per transaction for aggregation services	15¢
Incremental Fees from Payers	**$1,260,000 Per year**

ANNUAL REVENUE TOTALS

Redirected Fees from CH	$420,000
Redirected Fees from Payers	$1,260,000
Redirected Fees from Providers	$1,800,000
HIE Incremental Revenue	**$3,480,000**

Because minimal incremental expenses are required to add these HIPAA transaction aggregation services to the HIE, the incremental revenue can be applied directly to the bottom line. Adding fee-for-service analytics to this equation would bring in additional revenues and provide physicians with valuable intelligence to improve patient care.

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including those providers who have practice management systems but no EHRs. **The HIE Gateway Model** represents a level of completeness that would not be possible using a traditional clearinghouse approach or using a clinically focused HIE that does not have gateway functionality.

Overall health care savings with robust analytics is substantial, especially if they are utilized with combined clinical and administrative data. The savings will vary according to the HIE's focus and size, but HIEs with deeper and richer information sources will be able to offer analytical services provided on a "shared services" financial model and drive incremental sources of funding by running fee-for-service analytics for providers, payers, government agencies, and other stakeholder groups.

The HIE Gateway Model would advance efforts to improve health care quality and reduce costs. This model also would provide flexibility so the HIE can adapt to change and add greater value to the future health system. Additionally, it would evolve HIE development from a current focus on simply connecting individual physicians and health systems to enhancing analytics that improve insight at the point of care and result in medical and administrative cost savings.

This type of analytics-driven model could benefit all stakeholders—government, health and human service agency providers, consumers, patients and payers—with increased efficiency, improved care and reduced costs. A reasonable array of value-added services that analytics offer includes:

- Performance management
- Fraud and abuse identification and prevention
- Population monitoring and predictive profiling
- Care gap identification
- Care and disease management
- Public health monitoring and analysis
- Clinical research

Importantly, a sustainable HIE model serves all stakeholders better because there is less dependence on outside funding for success. Government funding, as encouraging as it is to HIEs now, eventually will stop, so the industry needs to move ahead with a model that works even without federal dollars and provides compelling value, while at the same time respects patients' privacy. Analytics enable HIEs to provide a vital service which will result in revenue that can help to fund future features and benefits. Combining EHRs with analytics will unquestionably result in benefits for stakeholders and in HIEs that will enjoy sustainability for the long term.

In the coming months, HIE endeavors will continue to evolve and should be taking small steps every day toward sustainability. Those that will succeed are going to have to use all of their assets—including existing data repositories of administrative data—and employ sophisticated analytics and other technology tools to support short-term viability and long-term sustainability. Bottom line? HIEs that provide value and comprehensive intelligence to improve care today are more likely to have the financial stability to lay the important groundwork for advanced HIE functionality that will improve health care and significantly reduce costs.

About Ingenix

Ingenix contributions to advancing health care information and technology are vast, and include providing industry leading measurement methodologies and tools; reducing administrative costs and overpayment; empowering providers with actionable intelligence and tools at the point of care; leading EMR solutions and services to automate the clinical setting; and advanced analytics. Organizations rely on Ingenix innovations, products, services, and consulting to improve the delivery and operations of health care everyday. More information is available at **www.ingenix.com.**